

ABSTRACT OF THE DISCLOSURE

[1051] An accumulated data-dependent post-manufacture shift in a characteristic of one or more of a pair of matched devices within an integrated circuit may cause a mismatch in the characteristic between the pair of matched devices. This mismatch may be reduced by preconditioning the matched devices to cause an initial shift in the characteristic in each of the matched devices and to thereby reduce an expected magnitude of any further lifetime shift in the characteristic of either matched device. In an exemplary sense amplifier circuit having matched cross-coupled PMOS load devices, a data dependent threshold mismatch between the PMOS devices resulting from a Negative Bias Temperature Instability (NBTI) effect may be reduced by biasing both of the matched PMOS devices so that both experience an initial NBTI V_t shift, and so that any expected further V_t shift in either device over the product lifetime is reduced. Consequently the amount of threshold mismatch that may subsequently develop over the product lifetime is likewise reduced.